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9 June 1978

TRANSLATIONS ON ENVIRONMENTAL QUALITY

No. 167

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## WORLDWIDE AFFAIRS

### UN ENVIRONMENTAL AGENCY CONDEMNS WEAPONS GROWTH

LD110906Y Moscow TASS in English 0750 GMT 11 May 78 LD

[Text] Nairobi, May 11, TASS--Geliy Skobelev, a TASS correspondent, reports: A general discussion on the main items on the agenda began at the current session of the board of governors of the UN Environmental Protection Program (UNEP) here. Delegates emphasized a big importance and global nature of environmental protection problems and spoke of difficulties which are encountered in various countries and of ways to overcome them.

The head of the Hungarian delegation pointed out that the results of the UNEP activities over the five years of its existence indicate that it can accomplish the mission entrusted to it by the UN General Assembly. At the same time, the representative of the Hungarian People's Republic stated that the UNEP, handling its direct tasks, cannot but take heed also of major world events which, although they are not within the UNEP competence, have an effect on its work. The world's number one problem--disarmament--is meant, in the first place, he said.

A war with its destructive power of up-to-date nuclear and neutron weapons remains the main threat to the environment and the ecological conditions of life on our planet, emphasized the head of the Czechoslovak delegation. He said the duty of all those who engage in environmental policy planning is to safeguard peace and help bring about a healthy ecological system, and promote people's well-being.

The head of the Bulgarian delegation called on the UNEP to express a protest against the neutron bomb. He emphasized that nuclear tests in the atmosphere, which are being continued despite the international agreement on prohibition of such tests, is a particular danger to mankind and the environment.

The delegates of Hungary, Czechoslovakia, Bulgaria, as well as some West European countries declared for the convocation of a European conference on the problems of the environment.

The speech made by Peking's representative, who fiercely attacked the policy of relaxation of tensions and disarmament, was obviously discordant with the delegates' businesslike and constructive proposals.

CSO: 5000



## INTER-ASIAN AFFAIRS

### MALAYSIAN-INDONESIAN MINISTERS DISCUSS CONCORDE ISSUE

Jakarta Domestic Service in Indonesian 1200 GMT 20 Apr 78 BK

[Text] Malaysian Communications Minister Tan Sri V. Manickavasagam, who arrived in Jakarta yesterday, met today with Vice President Adam Malik, Minister of State for Development Supervision and Environment Emil Salim and Communications Minister Rusmin Nurjadin. At his meeting with these three high-ranking Indonesian officials, Manickavasagam outlined the results of Malaysia's talks with the United Kingdom on superconic Concorde flights over the Malacca Straits. Matters of ASEAN interest were also discussed. They included the commercial use of the Palapa communications satellite in border and domestic communications in ASEAN countries and exchange of expertise in the railway service sector. Following his meeting with Rusmin Nurjadin, Manickavasagam, at a meeting with newsmen, reiterated the Malaysian Government continues to oppose Concorde flights over Malaysia and the Malacca Straits, mainly to protect the environment of the fishing community along the Malacca Straits. The British continue to emphasize the commercial benefits of the Concorde flights, but this emphasis greatly contradicts the interests of Malaysia and other ASEAN countries, such as Indonesia and Singapore. Manickavasagam explained the Malaysian Government's stand as follows:

[Begin recording] We have not changed our attitude. We have received reports that the supersonic flights could adversely affect the fishing community and its environment. Until we are sure this would not be the case, our stand will remain unchanged. I wish to thank the Indonesian Government for its cooperation in this matter. The Indonesian Government is aware of our problems. I am here to inform it of the latest developments. The matter of environment is an important one; we cannot afford to compromise on it. I think the British should [words indistinct] advice, so that we [words indistinct] the people, if it wants us to change our stand. In any case, we have never considered changing our minds. [end recording]

At a meeting in the Communications Department today, the Malaysian and Indonesian communications ministers were joined by their secretaries general and aviation directors general.

CSO: 5000

## PAKISTAN

### BRIEFS

EARTHQUAKE HITS PESHAWAR, QUETTA--Peshawar and Quetta were hit by an earthquake of medium intensity this afternoon. According to the Peshawar meteorological station, the epicenter was about 500 km southwest of Peshawar, near the Pakistan-Afghan border. [Text] [Karachi Domestic Service in Urdu 1500 GMT 6 May 78 BK]

CSO: 5000

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

UN ENVIRONMENT DELEGATION--Peking, 5 May--A Chinese delegation took off for Nairobi this evening to attend the Sixth Session of the Governing Council of the United Nations environment programme. Leader of the delegation is Wang Yueh-i, Chinese Ambassador to Kenya and permanent representative to the UN environment programme who is already abroad. Deputy leader is Chu Ko-ping, a leading member of the office of the environmental protection leading group under the State Council. [Text] [Peking NCNA in English 1645 GMT 5 May 78 OW]

CSO: 5000

QUEBEC GOVERNMENT FINANCES ANTIPOLLUTION EXPERIMENT

Montreal LE DEVOIR in French 13 Apr 78 p 2

[Article by Marie-Agnes Thellier: "Pigs and Pollution; Quebec Will Try the German Method"]

[Text] A pig breeder in the basin of the l'Achigan River is going to test a new way of using pig manure, during the next two weeks, which may do away with a large part of the pollution arising from the industrial breeding of pigs.

It is known that numerous complaints are made when a farmer specializes in breeding pigs and constructs gigantic pig-sties which can accommodate up to 5,000, or even 10,000 animals. While the neighbors complain of the bad odors, fishermen accuse the farmers of discharging up to 80 percent of their manure directly into the rivers. Now, in Quebec, animal manure in 1977 represents a potential for contamination by organic (not chemical) pollution equal to the trash thrown out by nearly 35 million people while pulp and paper release the equivalent of the trash thrown out by 18 million people. Thus, pigs would have to be "the number one polluters of Quebec."

Consequently, Marcel Leger at the Ministry of the Environment decided to advocate testing a German method which, in addition to greatly reducing pollution, makes it possible to use the manure as a fertilizer by composting it with peat. Yesterday afternoon Mr. Leger announced in Quebec that the government was financing this experimentation for a period of two years at a cost of \$85,000.

The "Fuchs" method has already been tested, apparently successfully, in four European countries, including Germany, Poland and Czechoslovakia, as well as in Japan. What is involved is composting of pig manure in liquid form. Instead of being stored for the 200 days that the colloid lasts and then being discharged, too often, into the rivers, the manure is stored for only five days in an insulated but ventilated tank so that a genuine fermentation is produced which kills the dangerous viruses and then permits the manure to be used as an element of a compost with a peat base. In time, it may even be possible to recover the proteins created by this procedure if the research is successful.

The interministerial committee for the allocation of territory then formed an ad hoc committee to evaluate the technical solutions for composting manures and for studying regional needs. "With the assistance of the citizens who formed the committee for the protection of the l'Achigan River and the assistance of breeders who will agree to participate in the research and the verification of the Fuchs procedure beginning in September, I expect to be able successfully to form the basis for a policy of rational handling of the residues resulting from the exploitation of animal production," the Minister of the Environment declared.

The problem is particularly serious in the counties of Dorchester, l'Assomption, Bagot, Beauce and Bellechasse.

9266

CSO: 5000

WORKERS DEMAND CLOSURE OF LEAD PLANT

Montreal LE DEVOIR in French 11 Apr 78 pp 3,6

[Article by Gilles Provost: "Lead Poisoning; Workers Want to Get Their Plant Closed"]

[Text] After losing about 2,000 days of work in two years because of the lead poisoning they have contracted, the 60 employees of the Canada Metal Co. Ltd. lead recovery plant in the eastern part of Montreal took an unprecedented action when they asked the government unanimously (voting by secret ballot) to close their plant until the necessary improvements have been made.

"This is the first time workers in Quebec have attributed more importance to their health than to the danger of losing their livelihoods...it is almost heroic," Emile Boudreau, director of health and safety on the job of the FTQ commented yesterday.

That verdict was also confirmed by the man who is primarily responsible for the medical supervision of these workers, Dr. Paul Landry, the head of the community health department of the Maisonneuve-Rosemont Hospital.

"These workers," he said, "certainly have a right to resort to such a radical measure. Their health definitely is threatened. We have been observing them for three years, and the situation has seemed to get worse since last summer in spite of the modifications made by the company. The Ministries of Labor and of the Environment have complete files which show that the standards have been exceeded in all areas of that plant, and they have everything that is necessary to have it closed down. Nevertheless, such a unanimous decision by the workers demonstrates a large proportion of courage on their part."

For his part, the chairman of the local trade union (Section 108 of the Canadian Union of Chemical Industry Workers), Claude Guimond, indicated to LE DEVOIR that the situation had become intolerable, particularly since the management had required all the workers to wear protective masks all the time everywhere in the plant.

"That's the last straw! If it really is dangerous to remove a cumbersome and uncomfortable safety mask anywhere at all in the plant, even for a few seconds, that proves that you cannot work in such a place any longer," commented Mr. Guimond.

"We are willing," he said, "to wear protective masks in certain dangerous places, but we cannot agree that the entire plant has become dangerous."

For his part, Dr. Landry indicated to LE DEVOIR that his service had obliged the company to require all workers who have more than 600 micrograms of lead per liter of blood to wear protective masks all the time. He also admitted that that measure applies to all employees of the plant with one or two exceptions.

Normally, Dr. Landry explained, employees must leave their jobs if their ratio of lead reaches 800 micrograms per liter, and they cannot resume work until that ratio has dropped to less than 400 micrograms. Finally, according to the trade union leaders, there are at least 12 or 15 workers who are on sick leave because of poisoning at the present moment.

The situation is even worse in the neighboring plant of the Ballast Metal Co., Dr. Landry reports. This has also been confirmed by Canada Metal workers, who state that they have often met their colleagues from the neighboring plant at the hospital. These two industries are situated on rue Notre-Dame, near rues Lacordaire and Dickson.

The manager of Canada Metal, Jim Talarico, who was reached at the plant yesterday, said he knew nothing about the trade union's decision, and he even said that he was surprised to learn that there had been a union meeting on the subject of health on the job. However, he indicated that the company is to complete a \$125,000 plan for improvements in August which had been approved by the government.

The chairman of the union, Mr. Guimond, questioned whether the manager had been ignorant, stating that the atmosphere had been so tense, at the end of the previous week, when the management had learned that a general meeting had been convoked on this subject, that he himself had been ejected from the plant.

However that may be, Dr. Landry, who met with some senior Canada Metal workers last Friday himself, says that he got the impression that the employees had now run out of patience. He had rather expected the decision that was made at the end of the week.

It was impossible to obtain reactions from the other levels of government involved in this matter yesterday because the telegrams announcing the decision of the Canada Metal trade union were not sent until yesterday afternoon.

Canada Metal (6265 Notre-Dame est) is a subsidiary of the Cominco Company, which itself is a wholly-owned subsidiary of the Societe d'investissement of the Canadian Pacific.

## ARGENTINA

### OFFICIAL STRESSES NEED FOR INDUSTRIAL ANTIPOLLUTION LAWS

Bahia Blanca LA NUEVA PROVINCIA 25 Apr 78 p 6

[Text] Buenos Aires, 24 Apr--"In order to avert water pollution in the Plate River, one solution would be to surround boats with a floating barrier, so that what was spilled in the water could be collected later. We need a law making companies responsible and I think that by the end of this year we are going to have this law which is so much needed." These were the words of Navy Captain Jorge Federico Schwartz (Ret), marine pollution inspector for the Fleet high command, speaking on [the T.V. program] "Water pollution and its consequences."

Referring to pollution by oil and other substances, he stated: "The problem is not new in the country; it is no secret."

At another point, he spoke of the sea's wealth, stating that until now the country had only engaged in limited fishing, for internal consumption. In fact--he continued--we did not realize what we had at hand. Fishing translates into schools, roads, bread, work and reducing the national debt. I can foresee the possibility that it will become a future No three exportable commodity."

In regard to the fact that there are penguins in the Falkland Islands affected by high-level mercury contamination and suffering liver damage from DDT, he stated that "it is apparent that marine pollution comes not only from oil spills, but that there are other ingredients which have been polluting the waters for some time."

He stated that "when the world realizes that a spill in the northern hemisphere can also affect the southern hemisphere, then we will begin to take a little better care of the environment."

"Fish, contrary to what people think, do not die when oil is present. They are clever creatures: they have intelligence and reason, and confronted with an unfavorable environment they move, leave the area. What does take the impact of pollution is plankton, on which fish feed, and when they do not have enough food they grow thin or their population in the region shrinks."



## Ecological Disasters

Schwartz recalled the sinking of the ship "Torre Icano" between England and Ireland, "the worst disaster until several days ago," he said. "I don't know if the 'Amoco Cadiz' will be worse. The second was the 'Netulia,' which occurred in the Strait of Magellan, near Chile. The 'Torre Icano' spilled 117,000 tons of oil and also emulsions."

He stressed that "cleaning this up requires the greatest effort. All the armed forces would have to participate, and also see that it was paid for." Formerly, there was no insurance. Today there is, and it can contribute to spreading out the financial impact which this implies."

Referring to our country, Schwartz recalled that "Argentina took the impact of 10 or 11 incidents like the 'Torre Icano' in the course of its oil [exporting] life from Commodore Rivadavia, which is a continual oil drain on the order of 100 tons per boat, that is some 30,000 tons a year, or \$3 million a year which the country has lost during this long period."

## In the Rivers

After referring to the pollution of small lakes, stating that "it is minimal, owing to their great self-cleansing capacity," Schwartz stated that "our greatest concern is the large concentration of industries along the Parana River. That is the source of chemical pollution and of sewer water. [It is also the site] of navigation, which produces a kind of harmful pollution, but the Parana's water-flow is very great. [as published] "In Europe," he pointed out, "the Rhine is two or three times wider than this stream and it has industries, and goes through several countries, but these countries have agreed not to dirty the river."

Finally, Schwartz stated that "Argentina urgently needs to resolve the problem of water pollution, and it is a matter that should not be left unattended. The information which I am receiving from the rest of the world is being placed at my country's disposal for the purpose of orientation."

These ideas were presented on the program "Project 2000," which is broadcast on Mondays over Television's Channel 7.

9077

CSO: 5000

YPF TO PRODUCE BASIC BIODEGRADABLE COMPONENT

Buenos Aires LA NACION in Spanish 28 Apr 78 p 7

/Text/ During a visit by reporters from various media to the Government Oil Deposits (YPF) La Plata refinery, its manager Abraham Dubin spoke of new investments in the plant (which processes 40 percent of the crude petroleum consumed in the country) and described measures adopted to prevent environmental pollution.

He pointed out that recently the complete alkylbenzene-cumene complex went into operation, making it possible to begin supplying the market with as much as 40,000 tons of lineal alkylbenzene, the basic component in the production of biodegradable detergents.

Dubin said, "The introduction on the market of this new YPF product will make it possible to completely replace imported nonbiodegradable detergents with domestic biodegradable components, with a resulting improvement in the condition of waterways."

With respect to efforts being made to reduce pollution of the environment, he spoke of the investment of 340 million pesos in a unit designed to convert acid wastes from the alkylation unit into sulfur dioxide.

In addition, Dubin talked about the placing in service of a combustion stack similar to one already in operation. It makes it possible to burn the gases derived from the safety systems at a height of 104 meters, thus avoiding pollution of air near the ground. This has required an expenditure of 4.218 billion pesos.

Concerning the canals adjacent to the refinery, he revealed that bids have been sought for work to restore them completely, to be done by private firms specializing in the field. It will require an expenditure, he said, of 688 million pesos.

He added that areas near the refinery are being reforested, and thus restoration of the ecology is under way.

IRAN

## TOXIC CHEMICALS POLLUTE GORGAN WATERS

Teheran TEHRAN JOURNAL in English 6 May 78 p 3

[Text]

TEHRAN, Friday — Rural radio stations along the Caspian coast have broadcast an official warning that the Gorgan river is "dangerous to both humans and animals" following the discharge of "a highly toxic chemical" into the water.

"Some 200 barrels of the (unidentified) chemical spilled into the river yesterday when a truck overturned and plunged its load into the Gorgan.

While the broadcasts did not name the affected villages, Persian-language newspaper reports indicate the warnings were repeated every half hour by radio stations in Sari and Mashad, suggesting contamination is widespread.

Police have arrested officials of the un-named company which was only recently per-

mitted to use the chemical "after much hesitation," it is claimed.

There were no immediate reports of marine or agricultural damage in the area, which produces most of Iran's cotton and skirts the northern steppe region famous for the Turkoman breed of horses.

CSO: 5000

# PLANT OFFICIALS CHARGED WITH GORGAN DUMPING

Teheran TEHRAN JOURNAL in English 7 May 78 p 3

[Text]

**GORGAN, Saturday** — Police have charged three officials at the Trintext Chemical Plant here with ordering a truck driver to dump highly poisonous chemical wastes into the Gorgan river.

Vilagers along the north-eastern river have been warned to keep well away from the toxic water, in which many hundreds of fish have already died. But officials say they have received "only a few reports of people being poisoned."

After questioning local people about reports that a truck loaded with chemicals overturned into the river, police arrested driver Assadollah Jafarkhani, who admitted dumping 2000 liters of Trintext Plant wastes.

But Jafarkhani was released after brief questioning and police arrested Trintext engineer Mohammad Taqi Jalali, warehouse manager Sayed Mohammad Bani-Fatemi and plant worker Qorban Jafari for allegedly ordering the toxic dumping.

Medical and Welfare Department staff here claim poisoned villagers are being examined to establish whether their symptoms derive from the consumption

of Gorgan river water.

Rural radio stations from Sari to Mashad have broadcast warnings since Thursday, declaring the Gorgan waters off limits and "dangerous for both humans and animals. It is not known how many animals have suffered poisoning."

The Trintext Chemical Plant was only recently permitted to use the unnamed but highly dangerous chemical "after much hesitation," it is reported.

POLLUTION: SOME PROGRESS, BUT STILL LONG WAY TO GO

Teheran TEHRAN JOURNAL in English 9 May 78 p 9

[Text]

**THE FIRST** meeting of the High Committee of the Movement to Combat Pollution in Tehran in the new Iranian year was held at Ettela'at Publications Saturday to review the work accomplished over the past five months and to prepare the program for the new year.

The evaluation of the work, although encouraging and show-

ing that the campaign against Tehran's atmospheric pollution is being conducted in all seriousness by the committee appointed at the Prime Minister's Office, we have still a long way to go before a clean atmosphere is achieved in the capital.

This is clearly noticeable from this report on the committee's proceedings.

...The most optimistic statistics show that today 2,700 tons of carbon monoxide is being scattered in Tehran's atmosphere every day. If all our hopes to eliminate pollutants materialize, the rate of growth of the number of automobiles in Tehran speaks of a three-fold increase in this and other poisons which blacken the capital's atmosphere in the next 10 years. It will be dangerous to live in Tehran then.

Therefore, the ultimate remedy may lie in ending the central position of Tehran on the one hand and improving public transport on the other.

The most effective way to end the central position of Tehran, indeed, is to move the capital to some other place. Of course, no one is suggesting that the entire 4.5 million residents of Tehran should be moved from here and put at some other point in the country. It will be sufficient to move the cultural, economic, social and political organization out of Tehran, i.e. the same thing that the Indians did when they made New Delhi their capital or Pakistanis did when they moved the capital to Islamabad.

Raising the idea of moving

the capital from Tehran; in view of the scarcities and shortages that we have, may be considered outrageous by some but for the sake of the future, this must be accomplished. We must strive so that this idea is accepted publicly and is implemented as soon as possible, not only because of the pollution threat alone but also because of 16 other related factors. It is not essential to mention them all here and create unnecessary public concern. Let it suffice to mention that 17 serious dangers threaten Tehran.

This was the outcome of

two-hour long discussions at Saturday's meeting of the members of the High Committee for Campaign Against Pollution. At this meeting each factor determined as an atmospheric pollutant last year was considered individually with what had already been done, what was being done and what remains to be done.

The first subject was the location of factories and the suspended particles in the atmosphere and the representatives of the government who attended the Saturday meeting said:

•Two main culprits which send suspended particles into the atmosphere, i.e. the Rey and Tehran Cement factories, have been required to equip their plants with special filters, which were now in the process of installation.

•So far 20 brick kiln furnaces have switched to use natural gas as fuel and by the end of the current year this number will be raised to 1,500.

•The experts of the Department of Environment Conservation have started repairing faulty central heating units. Unfortunately nearly all such installations inspected so far were found to be faulty and have been producing more smoke than necessary by defective combustion of fuel.

•The campaign against smoke-producing automobiles has been started under a new form in the sense that instead of seizing

such vehicles, which was not possible because of a lack of parking space, their licence plates are withdrawn and the owner is given back these plates only when he has removed all the defects to the satisfaction of authorities. So far more than 9,000 vehicles have been thus repaired.

•The United Bus Co., in addition to the 800 buses previously announced, will add a further 1,000 buses to its fleet while the worn out buses will be repaired gradually and put back on the road.

•The Iran National Co., by changing the carburettors of the Paykan cars as of the new model has reduced the outlet of carbon monoxide to 1.5 per cent, which is the acceptable standard. The company is now studying whether these carburettors could be used on the older models.

•The final plan to convert taxis into natural gas using vehicles has now been completed and it will be implemented as of Mordad 2538 (July/August 1979) when — 21 gas delivery points are to be established in the city. The Iran National Co. will start delivering gas-operated taxis as of the second half of the current year and as of Shahrivar this year (Aug/Sept) licence plates for gasoline-operated taxis will not be issued.

At the same time arrange-

ments have been made to deliver cheap natural gas to taxi drivers to encourage them to switch to the new fuel. Natural gas will be about 25 per cent cheaper than the 1975 gasoline price of six rials a liter.

Originally the taxis were scheduled to have switched to the use of natural gas as fuel earlier but because of the difficulties in setting up gas delivery stations the plan has been delayed somewhat.

The High Committee recommended that all possibilities must be explored in the delivery of natural gas to taxis and in the meantime arrangements should be made for mobile stations because 15,000 taxis operating round the clock were the greatest threat to public health.

The Committee regretted that the work of garbage collection and disposal in Tehran was not organized as it should be but was told that the Municipality was implementing programs to improve efficiency in this field. Sixty vacuum cleaners have been purchased and would be put to work gradually.

Two other plans were under study for garbage disposal. In this connection the Municipal authorities have reached the conclusion that they might leave the task of garbage collection and disposal to private firm. Negotiations have already been started with a foreign firm in this connection.

Under this plan the Municipality will supply the personnel and the private organization will undertake collection and disposal of garbage. Electric power generation from garbage is certain to be undertaken. Details are expected to be announced shortly.

At present Tehran possesses 1.2 million vehicles (or one for every four persons). Increasing public desire to own cars is reflected in the fact that since Iran National Co. announced it will sell cars directly to applicants, nearly 75,000 persons have applied. This desire stems from the absence of an efficient public transport system. If an efficient bus company starts operating, many people would prefer to use it rather than bring their own vehicles to work and face all kinds of parking and other problems.

Experience has shown that despite colossal government assistance, the United Bus Co. is unable to provide such a service and if remedies are not found immediately for the shortage of buses, rickety vehicles etc. these defects will continue indefinitely.

It seems the best way to improve the bus system is to release it to the private sector. The committee decided to consider the matter further at its next meeting when experts from the private sector will be invited to attend.

CSO: 5000

IRAN

BRIEFS

AZERBAIJAN EARTHQUAKE--Yesterday at 1435 hours a relatively strong tremor shook Shahpur and vicinity. No financial damage or loss of life was reported. [Excerpts] [Teheran ETTELA'AT in Persian 26 Apr 78 p 4]

CSO: 5000



## PERSIAN GULF AREA

### GULF STATES DISCUSS ANTIPOLLUTION BUDGET

Manama GULF WEEKLY MIRROR in English 13-19 May 78 p 17

[Text]

**THE GULF'S** anti-pollution budget of \$6,320,000 covers the period until the end of 1980, a Bahrain delegate to the recent conference in Kuwait on the protection of the marine environment said.

Mr Khalid Fakhro, Director of Fisheries in Bahrain's Ministry of Commerce and Agriculture, said it would provide for the establishment of an interim secretariat in Kuwait. The United Nations Environment Programme (UNEP) will contribute \$1 million to the fund.

Recommended contributions of the other Gulf littoral states have been fixed on the basis of their U.N. assessment, with the exception of the smallest oil producers, Bahrain and Oman, Mr Fakhro said.

Iran, with the longest Gulf coast-line, will pay approximately 28 per cent of the total. Other recommended contributions are: Saudi Arabia 19.2 per cent (approx.); Kuwait 15.5 per cent, Iraq 12.7 per cent, UAE 11.7 per cent, Qatar 8.9 per cent, Oman and Bahrain, each 2 per cent.

The Minister of Health Dr Ali Fakhro, who signed the

convention on behalf of Bahrain, said on his return that the secretariat in Kuwait was being set up by a very active group, with a deep concern for the protection of the environment. "It will be a well-organised and effective secretariat," he said.

He said the experts would at first concern themselves with the sea waters, but that attention would soon need to be extended to land and sea-shores, both of which were sources of pollution in the Gulf.

Representatives of UNEP are expected to visit Bahrain soon, to work out the extent of the Bahrain Government's commitment to the Mutual Aid Centre, to be set up in Bahrain to take action in emergencies such as oil spills. They will also study the commitment of other member states, the private sector, and the UN agency itself.

## PERSIAN GULF AREA

### GULF WATERS CLEANUP PLANNED

Manama GULF WEEKLY MIRROR in English 22-28 Apr 78 p 1

[Text]

EIGHT Gulf states this week decided to set up a secretariat with a \$6.3 million fund to help clean up and protect their waters choked with oil tankers.

The decision was reached at a conference sponsored by the United Nations Environment Programme (UNEP) to find ways of tackling the problems of the waters through which almost half the world's oil trade passes.

Conference officials said the secretariat, based in Kuwait, will, until a permanent Gulf regional marine environment protection agency is created co-ordinate the environmental efforts of the eight states — Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.

It will also follow up the implementation of two treaties to protect and develop the marine environment which the eight states were expected to sign before the 10-day conference closes on April 26, they added.

The conference decided that the fund would be provided equally by the eight states.

It also decided to set up an emergencies centre to co-ordinate information among the eight states, the officials added.

CSO: 5000

## ETHIOPIA

### BRIEFS

TORRENTIAL RAIN DAMAGE--Torrential rains accompanied with strong winds destroyed a school and 22 adjacent houses in Fiche town of Merabete province, Shoa region, the public relations office of the Shoa Police disclosed yesterday. There was no damage reported on human life or animals and members of the urban dwellers' associations are cooperating in rebuilding the damaged houses. [Text] [Addis Ababa THE ETHIOPIAN HERALD in English 3 May 78 p 3]

CSO: 4420

MOZAMBIQUE

BRIEFS

FLOOD DAMAGE--The administrator of Caia in Sofala Province has disclosed that 42,198 persons were rendered homeless in the district owing to the Zambezi River floods. [Text] [Maputo Domestic Service in Portuguese. 0430 GMT 30 Apr 78 LD/EA]

CSO: 5000

NIGERIA

LOCUST WARNING ISSUED FOR NORTHERN STATES

Kaduna NEW NIGERIAN in English 11 May 78 p 1

[Article by Sully Abu]

[Text] **A RED alert has gone out to farmers and agricultural authorities in Sokoto, Kano, Kaduna, Bauchi and Borno States over the imminent danger of outbreaks of the Sahelian Plague Locust.**

**This particularly voracious species of grasshoppers which wreaks havoc on crops and whose eggs begin to hatch with the onset of the rains, caused an estimated three million Naira damage to crops last year.**

With the rainy season now established in most parts of the far northern states, numerous eggs of the grasshopper laid during the outbreaks of last year are beginning to hatch.

A press release issued by the Agricultural Extension Research and Liaison Services of Ahmadu Bello University, Zaria, and signed by an extension entomologist, Mr. J.O. Arokoyo, called for adequate preparation against any outbreak of the grasshoppers. Already, it said, large populations of the newly-hatched nymphs have been observed around Kano municipality.

The release strongly advised all the Ministries of Agriculture and Natural Resources in Sokoto, Kaduna, Kano, Borno and Bauchi States to arrange immediate adequate supplies of pesticides recommended for grasshopper control such as Gammalin 20 and Kokotone.

It also called on them to arrange for repair and servicing of all chemical spraying equipment and to acquire additional sprayers if need be as well as to train extension staff and farmers for grasshopper control. They should be able to recognise the grasshopper, mix and spray chemicals properly, the release advised.

There are a number of control measures recommended to keep crop losses minimal. One of these is to avoid early weeding. This is because this species of grasshopper prefers grasses to millet and in the absence of weeds it will devour crops.

Another measure is to dig trenches and to drive the grasshoppers into them in order to kill them by burying or dusting them with some of the recommended chemicals.

Finally there is the chemical control measure by dusting or spraying with any of the recommended insecticides.

INDUSTRIAL POLLUTION CONTROL STEPPED UP

Salisbury THE RHODESIA HERALD in English 11 May 78 p 10

[Text]

*CONTROL of air pollution from industry has been stepped up recently, according to the latest bulletin of the Air Pollution Advisory Board.*

*The board's policy on the abatement of emissions from foundries has been accepted by the foundry industry and local authorities. Thirty-three operators of specified processes have been registered.*

*Registration means that the Secretary for Health and local authorities are satisfied that reasonable measures are being taken to prevent or reduce pollu-*

*tion by offensive gases, dust, and grit.*

*Fifty-three processes have been registered in other than the foundry industry, and a number of others are being negotiated with the local authorities.*

*Some large-scale operations remain outside the specified process field because reducing their emissions to what the board describes as "reasonable" levels would require large amounts of foreign currency. These processes are situated well away from residential areas. The board says that for the time being, stricter control is not justified.*

CSO: 4420

## SOUTH AFRICA

### ELIMINATION OF POLLUTION IN COPPER RECOVERY CLAIMED

Johannesburg THE STAR in English 11 May 78 p 24

[Article by Mike Nicol: "Cable Recovery Without Pollution"]

[Text]

Industry and government have often been accused of turning a blind eye on pollution. For instance burning PVC-coated scrap cable without fume extractor equipment is illegal. But some burning continues.

As Mr John Hess, MD of Metal and Chemical Industries points out, it releases chlorine and other toxic gases and chemicals into the atmosphere.

But "the authorities have tended to turn a blind eye to the practice since no viable alternative has been available in South Africa," he says.

Well, they can now unblinker their eyes, as Mr Hess's company has a R500 000 Dryflo separator on the market which he claims will dramatically reduce air pollution and accelerate the recovery of copper from scrap metal.

#### Refuse site

By the year 2000 the Pretoria, Witwatersrand, Vereeniging complex will be dealing with 12m tons of waste a year. At the moment it's 2m tons.

If present trends continue most of it will be tipped on to refuse dumps. Unless those dumps are well sited they could cause ground water pollution.

At the moment there are few standardised guidelines regarding the siting, compaction, or covering of landfill sites, and both municipalities and private waste disposal companies could be tempted to dump carelessly and risk pollution.

For these reasons Mr Jarrod Ball, a hydrogeologist with the Johannesburg city council, believes the Government should establish a code of practice applicable to all municipalities.

#### Diesel explosion

The energy crisis caused a "diesel explosion" overseas about eight months ago, and there are now signs that it could be happening here. Diesel car sales are climbing.

Mr Andrew Box, a representative from Hart-ridge in the UK, told me recently that at the moment diesel cars have a fuel efficiency rating of 38 percent while the rating for petrol cars is only 30 percent.

What's more, he points out, it's doubtful if the petrol engine will be made more efficient, whereas there's still room to improve the diesel.

By the year's end it is expected 10 percent of all new cars sold will probably be diesel powered.

#### Mercury slip

Those little mercury batteries that power digital watches, cameras, and pocket computers could be an environmental hazard. The mercury is in a highly soluble form and leaks out the moment the container erodes.

The matter has been referred to the Department of Planning and Environment for investigation.

## SOUTH AFRICA

### BRIEFS

HERBICIDES DESTROY HYACINTH--The hyacinth menace at Hartbeespoort Dam has been almost completely destroyed--without damaging fish life. The spraying of herbicide has destroyed more than 80 percent of the hyacinth mass floating on the surface without threatening biological life in the dam or water quality, according to a report by the Water Research Commission. The commission financed scientific monitoring of the dam to record effects of the spraying and decomposition of the hyacinths. The findings are to be published as guidelines for the safe and effective use of herbicide under similar conditions. [Text] [Johannesburg THE STAR in English 24 May 78 p 6]

CSO: 4420



MOSCOW CONFERENCE ON ENVIRONMENTAL PROTECTION

Moscow MOSKOVSKAYA PRAVDA in Russian 15 Apr 78 p 3

[Article: "The Protection of Nature: An Important Undertaking"]

[Text] As already reported in our paper, a scientific and practical conference entitled "Main Directions of Work for the Protection of the Environment in the City of Moscow Associated with Accomplishment of the Task of Turning the Capital into a Model Communist City," organized by the CPSU Moscow City Committee and the Executive Committee of the Moscow Soviet, was held at the Exhibition of Achievements of the National Economy of the USSR.

Secretaries of the CPSU rayon committees, representatives of rayispolkoms, secretaries of party organizations and operations leaders of leading industrial enterprises and scientific research institutes, representatives of ministries and departments and social organizations of the city and distinguished scientists participated in its work.

Reports were given at the concluding plenary session by: N. D. Bolotin, first secretary of the CPSU Krasnogvardeyskiy Rayon Committee; V. N. Khintaris, first deputy chairman of Gosstab USSR; Yu. A. Izrael', corresponding member of the USSR Academy of Sciences; and A. Ye. Biryukov, chief of Glavmosinzhstroy [Main Administration of Engineering Construction of the Moscow Gorispolkom].

I. N. Ponomarev, secretary of the CPSU Moscow City Committee, made a speech at the conference.

Participants in the conference included: V. I. Manayev, deputy chairman of the USSR National Control Committee; K. P. Mitryushkin, manager of the agricultural department, CC CPSU; V. I. Fedorov, manager of the construction department,

CC CPSU; I. M. Golovkov, instructor in the department of organizational and party work, CC CPSU; S. M. Butusov, RSFSR Minister of Housing and Municipal Operations; and A. V. Sidorenko, Vice, President, USSR Academy of Sciences.

It was noted at the conference that thanks to the constant attention and concern of the CC CPSU and the Soviet state, and of General Secretary of the CC CPSU and Chairman of the USSR Supreme Soviet Comrade L. I. Brezhnev personally, a large-scale program of work aimed at developing and reconstructing the city, strengthening the protection and improvement of the environment and creating the best conditions for labor, life and rest for workers, is being consistently implemented in Moscow.

The fulfillment of these tasks is the most important direction of the people of Moscow's struggle to turn the capital into a model communist city.

In the new Constitution of the USSR, the protection of the natural environment is included among the most important political, economic and social tasks of the state. Article 18 states specifically that in the interest of the present and future generations the necessary measures will be taken in the USSR to protect and to utilize in a scientifically-based and efficient manner the earth, the underground regions and the plant and animal world, to maintain the purity of the air and water, and to assure the reproduction of natural riches and the improvement of man's environment.

The USSR Supreme Soviet approved the basis legislation designed to assure the correct utilization of the earth, water, forests and mineral riches of the Soviet Union. The 10th Five-Year Plan allocates some 11 billion rubles for the protection of nature.

The speakers at the conference stated that since the beginning of the five-year plan considerable amounts of environmental protection work have been undertaken. In accordance with the plans regarding the social and economic problems of the development of Moscow in the period 1976-1990 and the integrated development of industry and municipal operations, the CPSU Moscow City Committee and the Moscow Soviet have taken major steps for the reconstruction and reequipping of industry, the improvement of production processes, the development of municipal operations and the improvement of planning and design of the city.

General schemes of water supply, watering, planting and the organization and utilization of the underground space of the city were developed and implemented.

The amount of construction and reconstruction of treatment facilities and dust and gas removal units in the industrial, transport and municipal operations enterprises is increasing year by year. During the last two years a large number of water treatment facilities have been built and put into operation, which has made it possible to decrease the output of untreated industrial waste and surface runoff into the city's reservoirs. Considerable work has been done to clean up the river bottoms of the Moscow River and the Yauza and Setun' and to overhaul the city's ponds.

Extension of the green belt in the capital is continuing and well-designed parks, squares and boulevards are being created. At present 35 percent of the area of the city is occupied by green plantings, and there is a total of 45 square meters of green area of all types for inhabitant.

It was stressed at the conference that increasing attention is being devoted to maintaining the city at a high sanitary engineering and hygiene level and to the processing of domestic and production wastes to make them harmless. Steps have been taken to remove small, scattered industrial enterprises from residential areas into special production zones, around which sanitary protection zones have been set up. In recent years more than 30 hygienically undesirable enterprises and production units have been moved outside the city.

The efforts to protect nature within the city are closely connected and coordinated with similar measures in Moskovskaya Oblast. The joint decree of the CPSU Moscow City Committee and Moscow Committee and the Executive Committees of the Moscow Soviet and the Moskovskaya Oblast Soviet "On the Planned Measures for the Protection of the Environment in the City of Moscow and Moskovskaya Oblast During 1976-1980" has been adopted and is being implemented. In accordance with this plan, 800 million rubles has been allocated to environmental protection efforts.

At the same time, it was stressed at the conference that the efforts to strengthen the protection and improvement of the environment which are under way still do not correspond to the level and rate of development of industry, transport and municipal operations.

A number of industries and departments are not taking the necessary steps to remove enterprises and production units which are harmful from a sanitary point of view and unsuited to the city from residential zones.

Certain existing treatment facilities and units are operating inadequately or ineffectually and are not being repaired at the right times, while in a number of enterprises there is no monitoring of the quality of the treatment and no qualified personnel to adjust, maintain and repair them.

There are substantial shortcomings in planting and upkeep of green areas. There are still cases where large numbers of well-established trees are cut down during industrial or dwelling construction. The restoration of green plantings after construction is generally not done on the necessary scale. A practice has been made of appropriating for capital construction purposes areas which have been earmarked for green plantings under the general municipal planting scheme.

The achievements of scientific and technical progress and the experience of advanced enterprises are still not being used sufficiently in the solution of pressing problems of environmental protection. The work of scientific and planning organizations concerned with these problems in the various sectors is poorly coordinated and the time taken to incorporate completed developments is being stretched out.

The speeches of the conference participants stressed that to improve the condition of the environment requires the solution of a whole series of other scientific and technical, economic and social problems associated with the improvement of the urban development base, the planning, construction and civic improvement of the city, the development and incorporation of progressive manufacturing processes, ways and means of treating drinking water and sewage and waste gases, and the development of automated systems and instruments for monitoring the environment.

The conference participants adopted specific recommendations for the leaders of enterprises, organizations and institutions in the capital, designed to strengthen efforts to protect the environment in Moscow in connection with implementation of the task of turning the capital into a model communist city.

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CS0: 5000

# LASERS MONITOR AIR POLLUTION

Riga SOVETSKAYA LATVIYA in Russian 12 Apr 78 p 2

[Article by Yevgeniy Mospanov: "Lasers Against...Dust"]

[Text] The All-Union Scientific Research Institute of Analytical Instrument Building at Kiev has developed special instruments and systems which monitor the cleanliness of the air around us. A visit to the institute's laboratories convinced us once again of how complex this task of protecting the environment is.

The state of development of technology today, with all sorts of machines and mechanisms releasing their waste products into the air, necessitates a high degree of precision in the measurement of air pollution. Accordingly the specialists' arsenal must include the best measuring equipment, various kinds of gas analyzers, spectrometers, and even lasers.

"One of the main themes in our institute is the development of an analytical system to record the presence of dust in the atmosphere, based on optical quantum generators," says Kandidat of Technical Sciences Roland Franko, the director of the institute. "This kind of work is quite new to us and highly original as well. Here the laser is used as a measuring device, and the dust content of the atmosphere is determined by the extent to which it absorbs laser light. The accuracy of measurement goes up to millionths of a gram per cubic meter of air. Our investigations have demonstrated the high effectiveness of our apparatus."

"Of course it is important to determine how much dust is dispersed in the air. But there is something else just as important, to know just what is choking the atmosphere. In other words, we need to establish the composition of the dust. For this purpose the institute has developed another instrument which determines the type by the use of a beam of protons. Experiments have shown that the new instrument is capable of determining the elementary composition of even the slightest microscopic inclusions."

"The institute has also begun work on the determination and analysis of sulfur dioxide in the atmosphere: for today motor transport has become one of the main "cloggers" of the atmosphere. As to sulfur dioxide, it is perhaps the most harmful component of automobile exhausts, and accordingly we have developed an instrument which monitors its content in the atmosphere. It is already in series production. But our work on it has not ended. We are developing a whole system to determine the sulfur dioxide content of the air which is designed for large cities and industrial centers."

"Automobile engines also release various harmful hydrocarbons, nitrogen oxides and many other substances which demand constant attention into the air. And our institute is developing a "personal" monitoring instrument and system for each of these."

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CSO: 5000

USSR

# ISSYK-KUL AKTIV DISCUSSES POST-EARTHQUAKE WORK

Frunze SOVETSKAYA KIRGIZIYA in Russian 8 May 78 pp 1, 3 LD

[KirTAG Report: "According to the Laws of Fraternity and Friendship"]

[Summary] An earthquake reaching force 8 occurred in the Issyk-Kul region at the end of March, "as has already been reported." "Working people in the oblast are continuing selflessly to labor at their places of work. Agricultural work does not stop for a single hour."

An Issyk-Kulskaya oblast party-economic aktiv conference was held recently in Przhevalsk to discuss tasks involved in further stepping up organizational work to eradicate the effects of the earthquake as soon as possible. A report was delivered by Kirgizian CP Central Committee First Secretary T.U. Usubaliyev.

"The state has allocated major resources to restore destroyed sociocultural and communal services and agricultural and other projects. The republic has been provided with great additional amounts of metal, piping, cement, timber, glass, slate and other construction materials."

Special concern is being manifested toward the population which has suffered from the earthquake. "Kolkhoz members and sovkhos workers who have suffered damage are being granted loans to build housing."

Working people in a number of cities and rayons in the republic have embarked on providing specific aid to the stricken regions.

"However, all people capable of work and living in the zone of the earthquake should take part in restoration work."

Comrade Usubaliyev went on to note that specialists consider that the housing, public buildings and installations damaged as a result of the earthquake were built without consideration for essential construction norms and rules in seismic regions. The public buildings, schools, children's establishments, livestock housing and other constructions erected in recent

years whose plans included provisions against seismic activity in the main remained intact or require only a small amount of work.

"It is necessary to draw the correct conclusion from this. In future there must be no construction of buildings on a primitive bases--from adobe, without foundations or without implementation of the requirements of sturdy construction--in the regions which have been stricken by earthquake and generally in regions of high seismic activity."

It is very important to concentrate the necessary manpower and material resources as well as machinery and equipment in the stricken zone with urgency and without vacillation.

"A large student construction contingent, including people from other fraternal republics, is arriving here."

A. Dysheyev, first secretary of Issyk-Kulskiy obkom, who also spoke at the conference, said that party, soviet, trade union, Komsomol and economic organs and all working people in the oblast will take all steps to eradicate the consequences of the earthquake as soon as possible "using the great and inestimable aid of the CPSU Central Committee and the USSR Council of Ministers."

CSO: 5000



NEW REVELATIONS ON COMPANY'S ILLEGAL CHEMICALS BURYING

Copenhagen BERLINGSKE TIDENDE in Danish 15 Apr 78 p 9

[Article by Erik Bendt Rasmussen]

[Text] Secret nocturnal burials of barrels of poison at BT Kemi. Censurable management. Concealments of illegalities. Those are just some of the dramatic elements of a "White Book's" slashing criticism of Kemisk Værk Køge's now closed subsidiary BT Kemi, Teckomatorp. The book is the result of a thorough investigation of the whole internal course of events surrounding the poison scandal, and the book was commissioned by the Kemisk Værk Køge management, who gave the investigators, Dr Knud Christensen and lawyer Ulf Andersen, a free hand to uncover the extent of the case. A unique and painstaking piece of detective work was carried out over a period of several months.

"We must conclude today that the management of BT Kemi *did not* live up to their responsibilities. The failure to do so is regrettable," says managing director Bent Jakobsen, Kemisk Værk Køge.

Big Mistake

Between the lines of the "White Book" it is clear that Kemisk Værk Køge made the mistake of its life in buying the poison factory BT Kemi in 1971 from the Swedish concern Bönnellyche & Thuröe, which in turn is owned by the Höganäs concern.

Kemisk Værk maintained BT Kemi unchanged, with the same poison production program, the same employees, and the same management, who had full knowledge of the buried poison. At the time of the purchase BT Kemi's then management stated that there were no serious environmental problems connected with the factory. But there were the already buried barrels of poison, and the factory yard was littered with barrels of poison. Some of the barrels were not even labeled with the type of poison.

Much of the burying was done at night with excavators operated by trusted employees, and was done without lights to avoid exposure, since many of the residents of Teckomatorp had suspicions about the burying of poison in the area of the factory.

Even after Kemisk Værk Køge's purchase of the factory the illegal burying of barrels of poison continued. The factory management had a big problem with the poison, which was partly production wastes and partly production errors. For many years they had stood back and allowed the barrels to pile up in the factory yard. It is clear that there was a problem with the poison when Kemisk Værk Køge took over BT Kemi; the barrels in the factory yard were not a good omen, and, moreover, dangerous substances were stored in the open air. Several of the containers were not covered.

#### First Disclosure

A few months after Kemisk Værk had taken over BT Kemi a new such secret burying began, which was known only to five high-placed persons in BT Kemi. The burying was done in two trenches east and south of the factory's waste water sump.

The disclosure of the burying east of the waste water sump came out at a residents' meeting in Teckomatorp on the environment, the subject of which was really the unpleasant odor, especially of phenol. One resident unexpectedly accused the factory of having buried poison in the ground.

The dramatic development of the poison scandal with its many concealments could have been stopped here. The local manager, Regnar Nilsson, charged in the case, promised to investigate the accusation and brought about an excavation east of the waste water sump, and surprisingly enough the barrels and cans came to light. That should be the end of the matter, the local manager thought, and he said nothing about the many barrels of poison that he knew were buried south of the sump.

Since then the poison scandal has taken an unexpected turn that the local manager could hardly have foreseen. Kemisk Værk Køge decided to discontinue production at BT Kemi, which was an out-of-date factory built on the site of an old beet sugar mill. The end of production meant that the waste water sump was to be emptied and the whole area drained. That was in August 1977.

A contractor's machines that were digging trenches for drainage pipes took the first few bites of earth and turned up the barrels and cans that the local manager had "forgotten." The poison find caused consternation at Kemisk Værk Køge, where it had been thought that the poison scandal was over after the barrels were dug up east of the sump.

#### New Drama

A rather dramatic development in the case followed. The parent corporation appointed an investigating committee, because it was clear that the BT Kemi management had kept silent about the facts. The Swedish authorities started a large-scale excavation and at the same time made a constantly growing claim for damages against BT Kemi. At the same time the authorities insisted that BT Kemi cease operations. The outcome of the new developments

was the end of BT Kemi, with liquidation and bankruptcy, because the firm did not have the means to pay the damages. Furthermore, the plant was publicly disgraced and could not be sold. Remnants of poisons and waste materials are still being found around the site of the plant. In fact, the buildings seem condemned to be torn down. But painstaking searches for the residual poisons are still going on.

#### Two Charged

Besides local manager Regnar Nilsson, BT Kemi's ex-director Göran Prawitz is charged in the case with evasion of the environmental laws. Both men have recently been acquitted by a lower court, but the public prosecutors have appealed the decision to a higher court.

In the "White Book" the two authors draw the following conclusion:

"There is no doubt that it was the secret and illegal burying of casks and drums that was the reason that an environmental case could spring up at the factory in Teckomatorp of such great dimensions as it actually has assumed. It is impossible to determine today with certainty what environmental risks were actually involved in the burying of a total of 610 barrels."

#### Denials

On three points the "White Book" denies some rumors about the poison scandal.

1. The drinking water has not been polluted.
2. There has been no serious damage.
3. No dioxin has been found (the Seveso catastrophe).

In Teckomatorp and Billeberga 800 school children were thoroughly examined and none had any trace of poisoning. All adults in the area were offered free medical examinations. Children that had been aborted were examined and showed no signs that poison was the cause of the abortions.

#### Bill

The most dangerous poison that was found buried on the site of BT Kemi was "Dinoseb," which is a component of weedkillers. Even the factory workers who handled this and other poisons daily for many years showed no signs of any effect on their health. Regular medical examinations of all employees are documented.

The Swedish state wants to present Kemisk Værk Køge with a bill for 9.5 million Swedish kronor for the cleanup work at BT Kemi, but the Danish firm will refuse to pay. The lawyer Ulf Andersen writes of this in the "White Book," "A parent corporation is not responsible for the actions of a subsidiary, any more than the parent corporation is liable for the subsidiary's debts and obligations."

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CSO: 5000

GREECE

EFFECT OF POLLUTION ON BIRTH RATE UNDER STUDY

Athens TA NEA in Greek 17 Apr 78 p 5

[Article by Kostas Khardavelas: "Athens Atmosphere Kills Fetuses"]

[Text] The heavily polluted Athens air causes interruption in pregnancy during the second or third month and a loss of the fetus. This startling revelation--which is confirmed by the increasing number of miscarriages in Athens--is already being investigated by a team of Alexandra Hospital gynecologists under the direction of obstetrics Professor Dion. Kaskarelis who in a statement to TA NEA yesterday said that "the polluted air, like smoking, interrupts pregnancy. But," he added, "we do not know to what percentage and how pregnancies are interrupted. We will try to find out by induction through the investigation we initiated in Athens and the provinces. Excluding, in other words, all the other various causes of pregnancy interruption we shall arrive at the conclusion about the destructive effect a heavily polluted atmosphere has on pregnancy."

The first observations were made by Greek scientists around 1970 when with the increase of lead, sulphur and carbon dioxide in the Athens air...  
[Line or lines missing rendering the rest of the paragraph meaningless].

According to measurements the University of Athens made in various areas of the capital, the content of the atmospheric air in poisonous substances--especially in lead and sulphur dioxide--has exceeded by far the safety limits set by the World Health Organization. This has affected adversely the birth rate of the population as the relevant statistics show. According to forecasts by statisticians of the National Statistical Service, fertility in our country will be as follows: 1975-79: 469.4; 1980-84: 467.6; 1985-89: 466.6; and 1990-94: 466.0.

On the other hand, Coordination Ministry statistician G. Siambos writes in his study on the development of the population in Greece the following (page 41):

"As a result of changes in the economic and social conditions during this period, fertility in Greece has a tendency to drop slightly while the trend

it will follow in the next 20 years will remain problematical. The fact is noteworthy that the fertility decrease in Greece kept pace with the percentage of the illiterate newlyweds, the drop in infant mortality, the increase in the ratio of the urban population and the rise in the people's standard of living."

These two factors (increase of the urban population ratio and rise in the standard of living) mean greater increase in automobiles, greater city traffic, more and larger industrial units near the cities /lines missing/... /bring about/ an almost geometrical increase in abortions which.../line missing/.

Academician and obstetrics Professor N. Louros when asked about this same problem said that as of this moment no specific data and statistics exist which will show by how much and to what extent the polluted atmosphere of a large city affects pregnancy.

The fact remains, however, that the Athens atmosphere, saturated with fumes and poisonous substances, has started to play its destructive role in the area of births and we shall have specific conclusions about this serious problem when the investigation of the medical team under Professor Kaskarelis is completed.

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CSO:5000

GREECE

SALONICA INDUSTRIAL AREA RESTRICTED TO CONTROL POLLUTION

Athens TA NEA in Greek 12 Apr 78 p 1

Text Responding to an interpellation by Deputy Sp. Papathemelis, Minister of Industry M. Evert said that no permits will be issued henceforth for the establishment of new industrial units in Salonica's east side in order to save the area from being industrialized and in order to steer all industrial units toward the Thessaloniki Nome industrial zone. He added further that efforts are being made to find a way for moving elsewhere large industries--such as Ethyl--which are near the cities.

With regard to Ethyl, the company's administrative council has already submitted an application and is awaiting the determination of the locality where it will move at a distance of 10 to 100 kilometers from the city.

In support of his interpellation, Sp. Papathemelis pointed out that the pollution of Salonica has already reached the extreme tolerable limits as a result of an unplanned industrialization which cannot be controlled.

With regard to Esso, Sink and Ethyl, Papathemelis said that the pollution effects are obvious and pointed out also that the city has only 4,000 stremmas of greenery instead of the 40,000 stremmas it should have.

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CSO:5000

GREECE

BRIEFS

MEASURES AGAINST SALONICA POLLUTION--(Salonica, 10 April, from our correspondent). Thessaloniki Nomarch K. Pylarinos will appoint a work team which will study all details of the environmental pollution problem in the Thessaloniki Nome and will propose measures for its limitation. At first, a campaign will be undertaken to enlighten the public while practical measures will be implemented simultaneously. Subsequently the application of strict sanctions against violators will be initiated.

[Text] [Athens TA NEA in Greek 10 Apr 78 p 16] [7520]

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## WEST GERMANY

### RUHR PLAN TO CLEAN AIR, BUILD GREEN BELTS, RECLAIM LAND

Copenhagen BERLINGSKE TIDENDE in Danish 14 Apr 78 p 4

[Article by Roon Lewald]

[Text] Essen (Associated Press).--Thanks to the spending of several billion dollars to combat pollution, more or less fresh air is beginning to spread through the Ruhr district, which is one of the world's most densely built-up urban areas.

"There are still times in the fall when smog forms, but we have not had a real smog alert since 1962," says Gregor Schleich, of the Nordrhein-Westphalian Environmental Ministry.

Besides cleaning up the air, the industries and the authorities are working full tilt combatting pollutants in one of the world's biggest "open sewers," to protect the already overcontaminated Rhine.

By means of a park program that includes several closed-down mining areas, "green belts" have been established in the dreary urban areas, which comprise a total of 15 cities that have coalesced and cover more than 2,000 square kilometers.

In the exploitation of western Europe's biggest cultivated fields, the industrial revolution devastated the Ruhr district, which had been so green and pleasant in earlier centuries. Large and small cities grew together into a single big, ugly industrial district of coal mines, steel mills, and factories, which supplied weapons to Germany in two world wars.

#### The Change in the Ruhr

The Ruhr district is no longer the "nation's arsenal," as was formerly the case, though it is still the home of the gigantic Krupp works, the Thyssen steel works, and other symbols of West Germany's industrial might.

The "megapolis" of 5 million inhabitants is the most densely populated area in Europe, with a population of more than 1,000 per square kilometer in the relatively flat landscape bounded by the Rhine on the west, the Ruhr on the south, and the Lippe on the north.



For more than a century the enormous concentration of highly contaminating factories and installations has made the Ruhr district a dangerous place to live. But after West Germany had pulled itself together again after World War II, changes began to take place.

"There were enough businessmen with the intelligence it took to see that people would begin to leave the Ruhr district if the pollution continued," says Rolf Nienaber, vice president of the Essen-Mülheim-Oberhausen chamber of commerce. They spent billions cleaning up the air, he explains.

Since pollution control began taking samples of the air in 1964, the particulate pollutants have been halved, and the sulfur dioxide content of the air--an essential ingredient of smog--has been reduced by 40 percent.

"Anyone who remembers the steel mills as they were 15 years ago will be in for a shock today," says Nienaber. "The characteristic dark brown smoke with all the grime has completely disappeared."

#### Air Monitoring

The pollution control has the world's most comprehensive air monitoring program going, says department spokesman Scheich. The computer handles the data that constantly flow in from 4,700 measuring stations in an area of almost 5,000 square kilometers.

"There are still certain places where the air pollution exceeds the established levels," says Scheich. He points on a map to the place where the Rhine port of Duisburg, the world's biggest port for river traffic, is covered with red dots as a sign of the highest levels of pollution.

The Ruhr district's fight against river pollution is of still earlier date. Even before 1900 the previously so idyllic river Emscher, which winds among the centers of the industrial area, was choked to death by the wastes that were dumped directly into it by the bustling industries during the prosperous years at the close of the last century.

The stagnant water stank and was the cause of malaria, diarrhea, and typhoid epidemics. It finally disturbed the officials so much that they saw that they had to clean up the Emscher as much as possible and at the same time start efforts to save the other two big rivers in the area--the Ruhr and the Lippe.

#### Long Open Sewer

The local authorities got together with the factory owners and mine owners to finance two cooperatives that were to deal with the Emscher and the Lippe respectively.

The two cooperatives built concrete walls along the rivers and straightened out their beds, so that the flow was increased and the wastes were thus flushed away.

The entire course of the Emscher and its tributaries, totaling 360 kilometers, was in reality converted into one of the world's longest open sewers. The river is still extremely dirty, but it is no longer a cause of epidemics.

The river water is conducted through 12 purification plants, which remove the coarse waste before the river reaches the Rhine. To improve the quality of the water further, the Emscher cooperative spent 700 million kroner only 2 years ago to construct one of the world's biggest purification plants at Dinslaken, where the Emscher empties into the Rhine.

"Every day we remove 200 tons of wastes, so that the river is 85 percent clean; it's as it was before; you can drink it," says the cooperative's spokesman, Toni Montens.

In a brilliant exploitation of the possibilities for reclamation and energy saving, the coal-containing sludge from the Emscher is channeled to another plant, where it is reprocessed into a dry fuel that has limited heating value but can still be used in power plants.

The two cooperatives spend over 400 million kroner every year to maintain the system. Both the Ruhr and the Lippe have escaped being destroyed and are supplying clean water to homes and industries.

#### Mines Become Parks

In the course of the last 25 years an administrative agency called the Ruhr District Planting Cooperative has planted over 15 million bushes and trees as a part of the efforts to bring worked-out coal mines back into use, but this time as public parks and the like.

"We have certain very special problems in the most industrialized areas, since the air pollution kills all except the hardiest trees in less than 15 years," says spokesman Manfred Bourree.

"We import trees from the United States, Japan, and Canada, test their resistance to industrial pollution, and select the ones that thrive best."

Besides transforming 2,000 hectares of old coal-mining areas into parks and playgrounds, the planting cooperative has bought a total of 5,000 hectares of land for the purpose of maintaining green belts between some of the biggest cities of the Ruhr district.

An experimental project is under way in this area in which a million tons of wastes are dumped each year on the site of the former Emscherbruch coal mine near Gelsenkirchen. The wastes are to cover a 100 hectare area with an artificially created range of hills.

The hills will eventually be covered with earth and planted with trees, so that in time a recreational area will be created.

"We are trying to recreate the old Emscher landscape," says Bourree. "By the year 2000 we will have a range of hills 80 meters high, and the whole area will be green again."